Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently Amended) A method for encrypting digital data for transmission over a channel, where said digital data defines a symbol sample duration, said method comprising the steps of:

delaying said digital data by at least one delay increment equal to one symbol sample duration, optionally divided by an integer, to thereby generate a plurality of time-sequential signal samples;

providing a set of distortion encoding keys including at least one nonlinear transfer function;

operating on each of said time-sequential signal samples by one of said keys which is a nonlinear transfer function, to thereby generate, at any instant, a plurality of distorted samples of said signal;

summing said plurality of distorted samples of said signal, to thereby generate a distortion-encrypted signal;

applying said distortion-encrypted signal to an input of said channel;

extracting said distortion-encrypted signal from an output of said channel, to form an extracted distortion-encrypted signal; and

decrypting said extracted distortion-encrypted signal.

2. (Original) A method according to claim 1, further including, before said step of delaying said error-correction-encoded signal by at least one delay

increment, the step of forward error correction encoding said digital data.

3. (Original) A method according to claim 1, wherein said set of distortion encoding keys includes at least one nonlinear transfer function in which the coefficients of said nonlinear transfer function vary with time.

4. (Original) A method according to claim 1, wherein said set of distortion encoding keys includes at least one nonlinear transfer function in which the coefficients of said nonlinear transfer function vary with time at a recurrence rate corresponding to the bit rate of said digital data.

5. (Original) A method according to claim 1, wherein said input of said channel is at a distance from said output of said channel, and said channel comprises (a) a modulator coupled to said input of said channel, for modulating said distortion-encrypted signal onto at least one carrier signal and (b) a demodulator coupled to said output of said channel for extracting said distortion-encrypted signal from said at least one carrier signal, and said method comprises:

performing modulation at said input of said channel, and performing demodulation at said output of said channel at a location remote from said input.

6. (Original) A method according to claim 1, wherein said channel includes a storage medium, and said method further comprises the step of interposing a delay between said step of applying said distortion-

encrypted signal to said input of said channel and said step of extracting said distortion-encrypted signal from said output of said channel.

7. (Original) A method according to claim 6, wherein said step of interposing a delay includes the step of recording said distortion-encrypted signal onto a magnetic disk, and playing back said magnetic disk at a time later than said recording.

8. (Original) A method according to claim 6, wherein said step of decrypting said extracted distortion-encrypted signal is performed by a method comprising maximum likelihood sequence estimation.

9. (Original) A method according to claim 8, wherein said step of decrypting by a method comprising maximum likelihood sequence estimation includes the step of applying a Viterbi algorithm.

10. (Original) A method according to claim 1, wherein said step of providing a set of distortion encoding keys including at least one nonlinear transfer function includes the step of providing at least one of (a) sin x; (b) cos x; (c) exp (j*_*M(k)); where M(k) is a conventional scrambling sequence; (d) {sum of [ai*x^i]}, where the ai are complex constants; and (e) sgn(x) functions.

11. (Original) A method according to claim 1, wherein said step of decrypting said extracted distortion-encrypted signal comprises the step of equalization.

12. (Original) A method according to claim 11, wherein said equalization step comprises the step of maximum-likelihood-sequence estimation.

13. (Original) A method according to claim 12, wherein said step of maximum-likelihood-sequence estimation includes the step of matching the maximum-likelihood-sequence estimation to those steps generating said distortion-encrypted signal from said digital data.

14. (New) A method for encrypting digital data for transmission over a channel, said method comprising the steps of:

delaying said digital data by at least one delay increment, to thereby generate a plurality of time-sequential signal samples;

providing a set of distortion encoding keys including at least one nonlinear transfer function;

operating on each of said time-sequential signal samples by one of said keys which is a nonlinear transfer function, to thereby generate, at any instant, a plurality of phase distorted samples of said signal;

summing said plurality of distorted samples of said signal, to thereby generate a distortion-encrypted signal;

applying said distortion-encrypted signal to an input of said channel;

extracting said distortion-encrypted signal from an output of said channel, to form an extracted distortion-encrypted signal; and

decrypting said extracted distortion-encrypted signal.

15. (New) A method for encrypting digital data for transmission over a channel, said method comprising the steps of:

delaying said digital data by at least one delay increment to thereby generate a plurality of time-sequential signal samples;

providing a set of distortion encoding keys including at least one nonlinear transfer function;

in a non-feedback manner, operating on each of said time-sequential signal samples by one of said keys which is a nonlinear transfer function, to thereby generate, at any instant, a plurality of distorted samples of said signal;

summing said plurality of distorted samples of said signal, to thereby generate a distortion-encrypted signal;

applying said distortion-encrypted signal to an input of said channel;

extracting said distortion-encrypted signal from an output of said channel, to form an extracted distortion-encrypted signal; and

decrypting said extracted distortion-encrypted signal.